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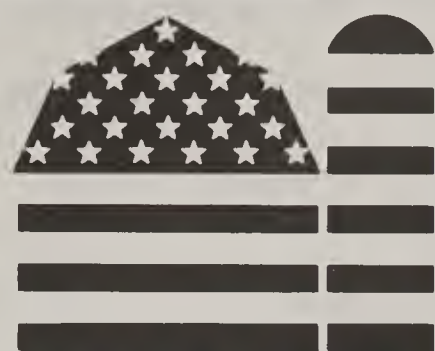
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# FARMERS' NEWSLETTER

## Soybeans



March 81/S-16

With the planting season just around the corner, many of you must firm up your cropping plans. What to plant and how much: Will it be soybeans, corn, cotton, or a combination of crops?

### Check the Choices

A few calculations can help you determine the soybean price needed to make your returns from soybeans equal those of competing crops. These use a break-even price which can be useful for evaluating your planting options as prices, costs, and yields change.

For example, suppose a soybean-corn producer expected the following prices, costs, and yields:

| <u>Item</u>    | <u>Soybeans</u> | <u>Corn</u> |
|----------------|-----------------|-------------|
| Price          | --              | \$3.25/bu   |
| Variable costs | \$80/acre       | \$155/acre  |
| Yields         | 30 bu/acre      | 100 bu/acre |

Calculate as follows...

- Returns from corn  
 $(\$3.25 \times 100) - \$155 = \$170$
- Cost of producing soybeans  
\$80 per acre
- Required soybean price:  
 $\frac{\$170 + \$80}{30 \text{ bu/acre}} = \$8.33$

In this example, a soybean price of \$8.33 would be required to cover variable costs per acre and regain the income that would be lost by not planting

corn. If the producer expected to receive less than \$8.33 per bushel, corn would be more profitable than soybeans and vice versa. In this example, the break-even price ratio for soybeans and corn is 2.56 to 1 (or \$8.33 to \$3.25).

Now, suppose this producer expected a corn price of \$3.50 per bushel with no change in variable costs and yields. What would be the break-even price for soybeans? In this case, net returns for corn would be \$195 per acre.

$$(\$3.50 \times 100) - \$155 = \$195$$

Thus, the break-even price for soybeans would be \$9.17 per bushel, and the price ratio is 2.62 to 1 (or \$9.17 to \$3.50).

$$\frac{\$195 + \$80}{30 \text{ bu/acre}} = \$9.17$$

Now, suppose cotton is an option on a soybean farm. What would be the break-even price of soybeans given these expected prices, costs, and yields?

| <u>Item</u>      | <u>Soybeans</u> | <u>Cotton</u> |
|------------------|-----------------|---------------|
| Price            | --              | \$.80/lb      |
| Variable costs   | \$80/acre       | \$255/acre    |
| Yields           | 30 bu/acre      | 470 lbs/acre  |
| Cottonseed value | --              | \$55/acre     |

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The next soybeans newsletter is scheduled for late May.

Calculate as follows...

(1) Returns from cotton  
 $(\$ .80 \times 470 + \$55) - \$255 = \$176/\text{acre}$

(2) Cost of producing soybeans  
 $\$80 \text{ per acre}$

(3) Required soybean price  

$$\frac{\$176 + \$80}{30 \text{ bu/acre}} = \$8.53$$

In this example, a soybean price of \$8.53 per bushel would be required to cover variable costs and recover the net income that would be lost by not planting cotton. Therefore, the break-even price ratio for soybeans and cotton is 10.7 to 1, or \$8.53 to \$.80.

An often-quoted "rule of thumb" is that soybeans are more profitable when their price is more than 2-1/2 times the corn price, or more than 10 times the cotton price.

But while break-even prices, or price ratios, can be useful guides for production decisions, they are only good for a given set of prices, costs, and yields. These items will vary from farm to farm, and from year to year.

So, don't rely too much on rules of thumb. Plug your own numbers into the formulas and see what you get.

### Production Costs: How Do You Stack Up?

Anticipated costs play a key role in deciding what to produce and how much.

The table in the next column shows U.S. average soybean production costs for the last 2 years. The costs of most production items rose substantially from 1979 to 1980. Energy, chemicals, fertilizer, and interest posted the largest increases. Check your costs against the nationwide average. Do you see any possibilities for reducing costs by substituting one input for another or by changing the amounts of input used?

### PRODUCTION COSTS: HOW DO YOURS COMPARE?

|                             | U.S. Average |        | Estimate       |
|-----------------------------|--------------|--------|----------------|
|                             | 1979         | 1980   | Your Own Costs |
| COSTS PER ACRE              |              |        |                |
| Variable:                   | 63.89        | 72.60  | -----          |
| Seed . . . . .              | 9.19         | 7.82   | -----          |
| Fertilizer . . . . .        | 6.49         | 8.12   | -----          |
| Lime . . . . .              | 1.00         | 1.22   | -----          |
| Chemicals . . . . .         | 12.78        | 15.05  | -----          |
| Custom operations . . .     | 2.59         | 2.74   | -----          |
| All labor . . . . .         | 13.67        | 14.64  | -----          |
| Fuel and lubricants . . .   | 8.89         | 12.27  | -----          |
| Repairs . . . . .           | 6.77         | 7.34   | -----          |
| Interest . . . . .          | 2.51         | 3.40   | -----          |
| Machinery ownership . . .   | 32.28        | 37.80  | -----          |
| Replacement . . . . .       | 18.62        | 20.33  | -----          |
| Interest . . . . .          | 11.00        | 14.56  | -----          |
| Taxes and insurance . . .   | 2.66         | 2.91   | -----          |
| General farm overhead . .   | 8.37         | 9.12   | -----          |
| Management . . . . .        | 10.45        | 11.95  | -----          |
| Total, excluding land . .   | 114.99       | 131.47 | -----          |
| COSTS PER BUSHEL            |              |        |                |
| Variable . . . . .          | 2.00         | 2.07   | -----          |
| Machinery ownership . . .   | 1.01         | 1.44   | -----          |
| General farm overhead . .   | .26          | .35    | -----          |
| Management . . . . .        | .33          | .46    | -----          |
| Total, excluding land . .   | 3.60         | 5.02   | -----          |
| Yield per acre, bushels . . | 31.9         | 26.2   | -----          |

### Plantings Update

Farmers in 16 southern States surveyed as of January 1 indicated they'd plant about 27.4 million acres of soybeans, up around 1 percent from 1980. Last year, the 16 States accounted for 24 percent of total U.S. production.



On March 19, USDA will release a Prospective Plantings report reflecting planting intentions for the 48 conterminous States.

With these indications of what farmers across the country intend to plant this spring, you may want to adjust your plans to take advantage of the planting patterns you see.

Meantime, here's some information to help you assess the soybean outlook.

### Lower U.S. Supplies

A relatively tight supply-demand balance is likely during the next several months. The total supply of U.S. soybeans is down about 11 percent from last year's record 2.4 billion bushels, due mainly to the 20-percent drop in 1980 production.

Carryover stocks next August 31 may fall to about 220 million bushels, compared with 359 million at the start of this season.

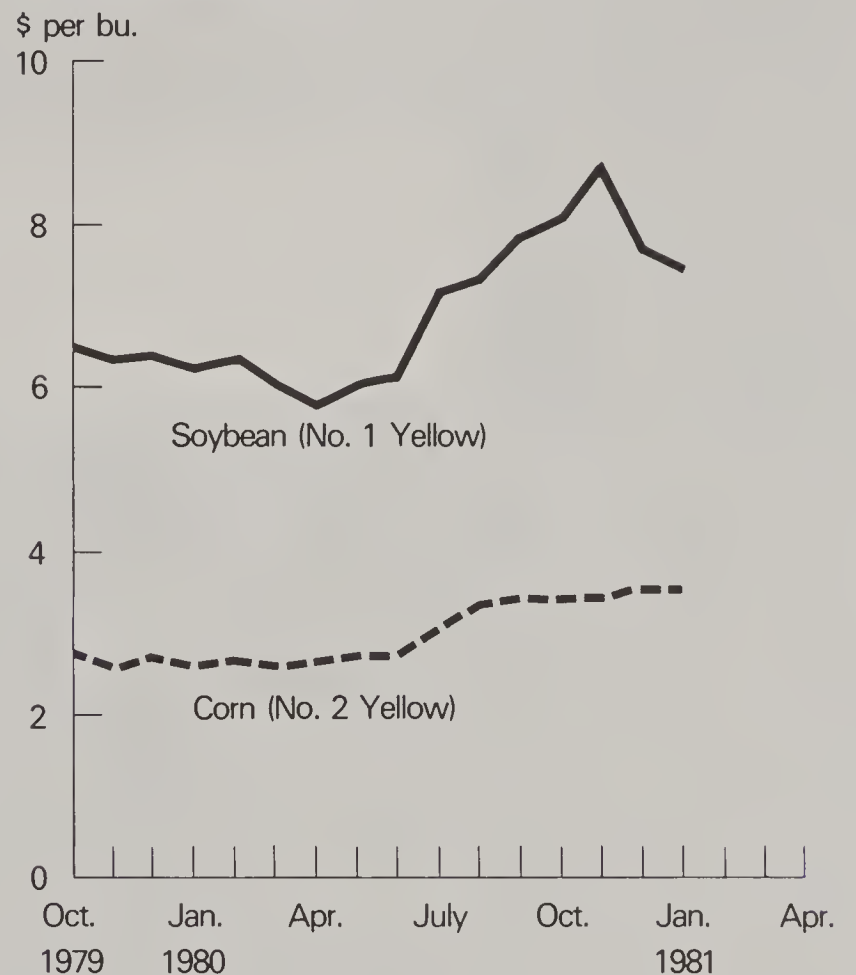
### Total Use To Fall

Smaller supplies, higher prices, and weaker demand, particularly in the oil sector of the soybean industry, will lower total domestic soybean use by about 6 percent from last season's 2.1 billion bushels. However, strong demand for soybean meal will hold crushings to about 5 percent less than last year's record volume.

U.S. soybean exports are expected to be around 800 million bushels, off about 9 percent from a year ago. A big reason is that major importers, especially Western Europe, are sitting on large stocks of vegetable oils. Imports of soybeans for crush would just add to their already ample stocks. For the same reason, our soybean oil exports are also down sharply from last season.

Here at home, soybean oil stocks may reach a record volume by the close of

### SOYBEAN PRICES DOWN FROM NOVEMBER HIGHS



this season. As a result, oil prices will average slightly below those of a year ago. In contrast, strong demand is keeping soybean meal prices well above last season's \$182 a ton.

### Prices Move Down

Soybean prices turned down in December after rising for 6 months. Chicago cash prices dropped from \$9.05 a bushel on November 21 to \$6.97 on December 11. In mid-February, they hovered around \$7.30 a bushel.

Soybeans, like other commodities, are currently subject to sharp price fluctuations. Acreage and yield prospects for the upcoming U.S. crop and outcome of the Southern Hemisphere crop will influence prices in the months ahead.

For the 1980/81 season, farm prices of soybeans are expected to average \$7.75 a bushel, compared with \$6.28 last season. In mid-January, the average farm price was \$7.54 a bushel, down from \$7.80 in December.

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## U.S. Beans Face Stiffer Competition

While American farmers still dominate world production of soybeans, South American output has risen substantially over the last decade. Three key countries--Brazil, Argentina, and Paraguay--are expected to produce around 735 million bushels in 1981, compared with only 80 million 10 years ago.

The 1981 crop in these countries is likely to top last year's record by about 4 percent. With crops this size, South America has emerged as a strong competitor in export markets for both soybeans and soybean products. We're feeling the competition this season as soybean and product exports from Brazil and Argentina are up 7 percent.

## SOYBEAN SUPPLY OFF 11 PERCENT FROM LAST YEAR

| Year<br>beginning<br>September 1 | 1978/79 | 1979/80<br>Preliminary | 1980/81<br>Projected | Range         |
|----------------------------------|---------|------------------------|----------------------|---------------|
| Million bushels                  |         |                        |                      |               |
| Beginning stocks                 | 161     | 174                    | 359                  |               |
| Production. . . .                | 1,869   | 2,268                  | 1,817                |               |
| Total supply. .                  | 2,030   | 2,442                  | 2,176                |               |
| Crushings. . . . .               | 1,018   | 1,123                  | 1,065                | ± 30          |
| Exports. . . . .                 | 739     | 875                    | 800                  | ± 30          |
| Seed, etc.. . . . .              | 76      | 68                     | 70                   |               |
| Residual . . . . .               | 23      | 17                     | 21                   |               |
| Total use. . . . .               | 1,856   | 2,083                  | 1,956                | ± 50          |
| Ending stocks . .                | 174     | 359                    | 220                  | ± 50          |
| Dollars per bushel               |         |                        |                      |               |
| Farm price. . . .                | 6.66    | 6.28                   | 7.75                 | + .75 to -.50 |
| Loan rate. . . . .               | 4.50    | 4.50                   | 5.02                 |               |

As of February 12, 1981.

Brazil, the world's second biggest soybean producer, turned out a record 500 million bushels last year, and appears headed for a new high this year. Brazil uses its sizable crushing capacity to export soybean meal. Meal exports for 1980/81 are expected to total 7.1 million tons, almost a third more than last year.

Meantime, Argentina is expected to produce nearly 143 million bushels this season. Exports will take roughly 80 percent of the crop. Unlike Brazil, Argentina produces soybeans specifically for export. Paraguay's crop is likely to come in at about 26 million bushels.

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Coming March 19...

"NATIONAL AGRICULTURE DAY"

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